The Commonwealth of Massachusetts
Executive Office of Health and Human Services
Department of Public Health
250 Washington Street, Boston, MA 02108-4619

JANE SWIFT
GOVERNOR

WILLIAM D. O'LEARY
SECRETARY

HOWARD K. KOH, MD, MPH
COMMISSIONER

September 11, 2001

The Honorable Barbara Dortch-Okara
Chief Justice for Administration and Management
Administration Office of the Trial Court
2 Center Plaza, 5th floor
Boston, MA 02108

Dear Judge Dortch-Okara:

In response to a request from employees of the Lawrence Juvenile Court, the Bureau of Environmental Health Assessment (BEHA) conducted an evaluation of the indoor air quality at Lawrence Juvenile Court, 10 Railroad Street, Lawrence. Massachusetts on June 29, 2001. This evaluation followed a discussion with Christopher McQuade of the Administration Office of the Trial Court. Michael Feeney, Chief of Emergency Response/Indoor Air Quality (ER/IAQ), BEHA, conducted this inspection. Concerns about mold exposure related to flooding in the basement resulting from a rainstorm on June 17, 2001 prompted this request. Courthouse staff reported that rainwater accumulated to a depth of four to six inches throughout the basement floor of the building. Materials forming interior walls of the front lobby, cellblock, cellblock control and the District Attorney's Office became saturated with water. Unremediated sections of the interior wall cavity showed signs of mold growth. These sections are made of gypsum wallboard (see Picture 1).

Contractors appeared to have made substantial efforts to restore the basement to a workable environment. In a number of areas in the basement, the front lobby and sections in the cellblock hallway of gypsum wallboard as well as insulation were removed (see Picture 2). Floor fans and dehumidifiers were in operation at the time of this assessment. In order to ascertain whether sufficient amounts of wall board were removed to prevent mold growth, moisture content of these materials was measured using a Delmhorst, BD-2000 Model, Moisture Detector. Moisture contents of gypsum wallboard above removed sections in the cellblock hallway had normal moisture concentrations and appeared to be free of visible mold growth. A number of walls in the lobby and the district attorney's office had elevated moisture levels at a height of two feet above the floor.

Moisture measurements were also taken in cell walls. Cell walls consist of plywood that is covered with a vandalism-resistant, heavy plastic covering (see Picture 3). This plastic covering serves as a water-impermeable plastic barrier that serves to prevent plywood from drying. Plywood at a height of one foot above the floor within wall cavities had excessive measurements of moisture. Similar excessive moisture measurements were also found in the

floor of the elevator car. Further, restrooms on the first floor have this plastic covering on walls, except it is adhered to gypsum wallboard. Both water saturated gypsum wallboard and plywood can support mold growth if it remains moistened for extended periods of time. After consulting with Mr. Pat Quinn, (facility manager for landlord of 10 Railroad Street), it was agreed that wallboard in the basement should be removed at a height of two feet above the floor and cell wall plywood be removed at a height of approximately one-foot above the floor.

In order to avoid potential mold and related spore movement during remediation of the basement, the following recommendations should be implemented in order to reduce contaminant migration into occupied areas and to better understand the potential for mold to impact indoor air quality:

1. Seal elevator, stairwell and hallway doors with polyethylene plastic and duct tape.

2. Continue to use dehumidifiers, particularly around structural wooden beams (see Picture 4).

3. Establish communications between all parties involved with remediation efforts (including building occupants) to prevent potential IAQ problems. Develop a forum for occupants to express concerns about remediation efforts as well as a program to resolve IAQ issues.

4. Develop a notification system for building occupants immediately adjacent to (and above) the basement to report remediation/construction/renovation related odors and/or dusts problems to the building administrator. Have these concerns relayed to the contractor in a manner that allows for a timely remediation of the problem.

5. When possible, schedule projects which produce large amounts of dusts, odors and emissions during unoccupied periods or periods of low occupancy.

6. Disseminate scheduling itinerary to all affected parties. This can be done in the form of meetings, newsletters or weekly bulletins.

7. Obtain Material Safety Data Sheets (MSDS) for all remediation/decontamination materials used during renovations and keep them in an area that is accessible to all individuals during periods of building operations as required by the Massachusetts Right-To-Know Act (MGL, 1983).

8. Consult MSDS' for any material applied to the effected area during renovation(s) including any sealant, carpet adhesive, tile mastic, flooring and/or roofing materials. Provide proper ventilation and allow sufficient curing time as per the manufacturer's instructions concerning these materials.

9. Use local exhaust ventilation and isolation techniques to control remediation pollutants. Precautions should be taken to avoid the re-entrainment of these materials into the building's HVAC system. The design of each system must be assessed to determine how it may be impacted by renovation activities. Specific HVAC protection requirements pertain to the return, central filtration and supply components of the ventilation system. This may entail shutting down systems (when possible) during periods of heavy construction and demolition,

ensuring systems are isolated from contaminated environments, sealing ventilation openings with plastic and utilizing filters with a higher dust spot efficiency where needed (SMACNA, 1995).

10. Seal utility holes, spaces in roof decking and temporary walls to eliminate pollutant paths of migration.

11. If possible, relocate susceptible persons and those with pre-existing medical conditions (e.g., hypersensitivity, asthma) away from the general areas of remediation until completion.

12. Implement prudent housekeeping and work site practices to minimize exposure to spores. This may include constructing barriers, sealing off areas, and temporarily relocating furniture and supplies. To control for dusts, a high efficiency particulate air filter (HEPA) equipped vacuum cleaner is recommended. Non porous materials (e.g., linoleum, cement, etc.) should be disinfected with an appropriate antimicrobial agent. Non-porous surfaces should also be cleaned with soap and water after disinfection.

We suggest that the majority of these steps be taken on any remediation/renovation project within a public building.

A full report including results of air testing conducted throughout the building will follow this letter. Please feel free to contact us at (617) 624-5757 if you are in need of further information or technical assistance.

Respectfully,

Suzanne K. Condon, Assistant Commissioner
Bureau of Environmental Health Assessment

cc/ Mike Feeney, Chief, Emergency Response/Indoor Air Quality
Lynne G. Reed, Executive Director, Administrative Office of the Trial Court
Stephen J. Carroll, Director of Court Facilities
Joanna Rugnetta, Health and Safety Liaison
Hon. Sally F. Padden, First Justice, Lawrence Juvenile Court
Hon. Jose Sanchez, Associate Justice, Lawrence Juvenile Court
Senator Susan C. Tucker
Representative David M. Torrisi
Representative Jose L. Santiago
Representative Barry R. Finegold

References

MGL. 1983. Hazardous Substances Disclosure by Employers. Massachusetts General Laws. M.G.L. c. 111F.

SMACNA. 1995. IAQ Guidelines for Occupied Buildings Under Construction. 1st ed. Sheet Metal and Air Conditioning Contractors' National Association, Inc., Chantilly, VA.

Picture 1

Removed Gypsum Wallboard in Cellblock Hallway, Note Mold Growth on Interior Side of Gypsum Wallboard

Picture 2

Removed One-foot Sections of Gypsum Wallboard and Insulation in the Lobby

Picture 3

Heavy Plastic Material over Plywood that Forms Cell Walls.

Picture 4

Structural Wood Pillar inside Gypsum Wallboard Cavity in Lobby